



NCERT



CHAPTER WISE TOPIC WISE

LINE BY LINE QUESTIONS





BY SCHOOL OF EDUCATORS

CLASSIFICATION OF ANIMALS

ANIMAL KINGDOM



Porifera

MottoScal

- Body with ostial spicules Cellular. Acoelomate. ASSMMELLICAL.
- and chodinocates and canals in walls.
- EB .- SUCON. SPONGILLO

19:- APPLES NORL OCLOPUS. SAUId.

erc.

MOUTH has radula.

CNIDARIA PHYCUM-

Coelenterate/ Coidaria

ARTHROPODA

PHYLUM-

- Tissue Level. Acoelomate. Radial Symmetry.
 - Two body forms- Polyp chidoblasts present. Atternation of and Medusal. generation.

RESPITATION OF BANK PITESEME.

Body divided into - head.

thorak and abdomen. Jointed appendages.

Organ System Coelomake.

Largest Phytum.

Arthropodal

metagenesis.

19: Scorpio. Bullerfiy, mosquil

Prominetc.

Excretory organ - Makpighian tubules.

Eg:- Sed divemone. Sed fain and Brain Coral.

PHYLUM-

CTENOPHORA CLENOPLOFO

- Tissue level. Acoelomate Radial Symmetry. Comb Plates for
- tocomotion.
- BiotumineScence
- Eg:- PIE Urobrachia and CLENOPIGING.

appendages. Nephridia for excretion and

osmoregulation.

:g -- Earthworm and Leech.

PHYLUM-ASCHELMINTHES

PHYCUM-

PLATYHELMINTHES

FIGH body, hooks & suckers. Organ and organ System. Accetomate. Bitateral Platshelminthes Symmetry.

19:- Liver fluke & Tape

Fidme cells.

ECHINODERMATA Radial Symmetry. Echinodermata PHYLUM-Second Largess Phyllum. Organ System. Coelonate Blaneran Symmetry. Bada Segmented having head. muscular foot & Visceran hump.

ENdoSkeleton of Calcareous OSSicies. water Vascular system Organ System. Coelomate. Sping bodied. present.

Tissue tevet (Eqithelium)

Eg -- Starfish. Sea urchin etc.

Organ System. Coelondre. Bilareral Symmetry.

unorm - like with Proboscis. Excretory organ - proboscis немісноврата PHYLUM-Hemichordate

Egithetiat

ES- BORGINOSIOSSUS & SCICCOGIOSSUS

PHYLUM-CHORDATA

Paired Pharryngean gill Slits Chordata organ System. Coelomate Bitateral Symmetry. dorson hollow werve Cord

Organ System. Coelonate

Annetida

PHYLUM-

ANNEHDA

Bitatera symmetry. Parahodia - Lavera

Body Segmentation-

Metamers.

Urochordona/ Tunicala Cephalochordona. Vertebrana. SUB - PLYICE present.

(iii) Pseudocoetomate

(i) Acoetomate.

(ii) Coetomate,

CLASS AVES AVES

Presence of feathers, beak & wings.
Bones long & hollow-Pineumatic.
Heart - 4 Chambered.

Eg:- Crow. Pigeon. Penguin. Homoiotherms.

external ear or Pinnal Present. Skin have hair homoiothermous.

Body round. dioecious. Digestive system Complete. Muscular marynx.

Eg: Round worm. Filatia worm and hook worm.

Mammary glands present.

CLOSS Manmalia

Organ System.
Pseudoceelemate Bilateral

symmetry.

ASCHELMINERS ~

MAMMALIA

erc.

Common DotPhin(ViviPatrous)

Kangaroo, Blue whale.

g .- PLOLUPUS (oviPairous).

Body Covered with Scales and Heart - 3 chambered (except REPTILIA CLOSS Reptilia crocodite). Scutes.

Eg:- Cobra. Auligator. Tortoise. etc.

Poikitothermous.

VERTEBRATA (Notochord replaced by bony/ cartitaginous Vertebral Column)



(i) Cettutar Levet.

(ii) Tissue Level,

Cetts

. Sucking & Circular mouth without Cartiaginous cranium & vertebral . Gill Stits Present.

(iii) organ Level/ organ System level

Eg:- Lampres & Hagrish

Levels of Organisation



Sammetra

Notochord

CLOSS Chondrichthyes

. Placold Scales on Skin. . Electric organ (Torredo) & (Sting ray) . Cartitaginous fishes. Poison Sting Present. . Giu siits without opercurum

Classification

Basis of

Eg:- Dog fish. Salw fish. etc.



Triptoblastic Organisation

Coelom

DiPLOBLAISEIC

DND

segmentation

Organ Level (Stomatch)



. Bony Fishes. Gitt Sits covered by operculum. Air Madder Present.

eg:- Flying fish. Rohu. Sea horse. etc.



. Live in aquatic & terrestrial CLASS AMPhibia

. Body divided into head & trunk. . Heart- 3 Chambered. . Polkkothermous. Eg:- Todd. frog. Salamander

NCERT LINE BY LINE QUESTIONS

BASIS OF CLASSIFICATION

- 1. Which of the following is a basic feature of all the organisms of Animalia?
 - (a.) Multicellular structure
 - (b.) Sensory and neuromotor system
 - (c.) Terrestrial habitat
 - (d.) Locomotion
- 2. Which of the following lack tissue grade organization?
 - (a.) Metazoans
 - (b.) Eumetazoans
 - (c.) Parazoans
 - (d.) None of these
- 3. Match the columns.

| | Column-l | | Column-II |
|-----|--------------------------|-----|-----------|
| (A) | Organ level | (1) | Pheretima |
| (B) | Cellular aggregate level | (2) | Fasciola |
| (C) | Tissue level | (3) | Spongilla |
| (D) | Organ system level | (4) | Obelia |

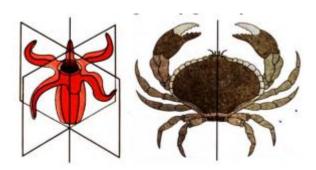
Codes-

| (A) | (B) | (C) | (D) |
|------|-----|-----|-----|
| A) 2 | 4 | 3 | 1 |
| B) 2 | 3 | 4 | 1 |
| C) 4 | 1 | 2 | 3 |

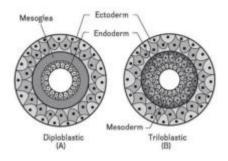
- D) If both assertion and reason are false.
- 4. Choose the correct option
 - (a.) Ctenophores and Platyhelminthes possess complete digestive system.
 - (b.) Aschelminthes to chordates, all possess organ system level of organization along with complete digestive system.
 - (c.) Coelenterates and Aschelminthes possess organ system level of organization along with complete digestive system.
 - (d.) Poriferans may possess complete digestive system.
- 5. The entry of food and exit of waste takes place from separate openings in
 - (a.) organisms having incomplete digestive system
 - (b.) coelenterates, ctenophores and Platyhelminthes
 - (c.) organisms having complete digestive system
 - (d.) organisms having cellular level of organization
- 6. Which of the following is incorrect?
 - (a.) Some division of labour (activities) occur among the cells in the members of phylum

porifera.

- (b.) Division of labour (activities) is completely absent among the cells in poriferans.
- (c.) Open circulatory system is found in Tunicates, hemichordates, and noncephalopod molluscs.
- (d.) All of these
- 7. Choose the incorrect option.
 - (a.) Complete digestive system Two openings, mouth and anus
 - (b.) Incomplete digestive system Single opening system
 - (c.) Open circulatory system Blood is circulated through tubes
 - (d.) Closed circulatory system Arteries veins and capillaries present
- 8. Choose the correct body symmetry shown in the diagram.

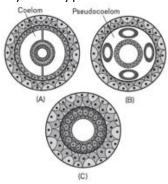


- (a.) A Radial, B Bilateral
- (b.) A Bilateral, B Pentamerous
- (c.) A Radial, B Pentamerous
- (d.) A Bilateral, B Radial
- 9. The diagram below shows the diploblastic and triploblastic germ layers in the animals. Identify the correct option in which they are found.

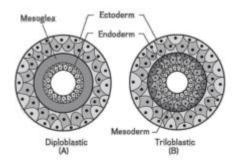


- (a.) A Radial, B Bilateral
- (b.) A Bilateral, B Pentamerous
- (c.) A Radial, B Pentamerous
- (d.) A Bilateral, B Radial
- 10. Choose the true statement:
 - (a.) Animals like annelids, arthropods, Aschelminthes, molluscs, hemichordates and chordates possess bilateral symmetry.
 - (b.) Most of the animals possess bilateral symmetry.
 - (c.) Platyhelminthes was the first phylum during evolution to exhibit bilateral symmetry.
 - (d.) All of these

11. Study the types of animals with respect to the presence or absence of body cavities:

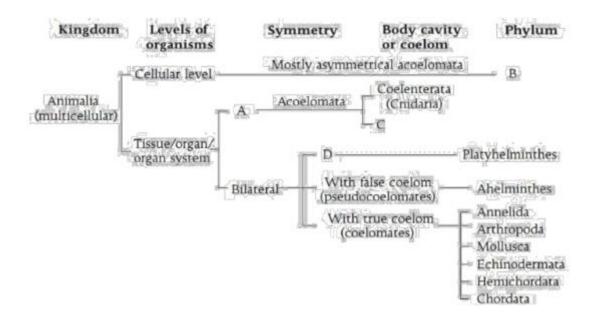


- (a.) A Molluscs, B Chordates
- (b.) A Annelida, B Porifera
- (c.) A Coelenterates, B Platyhelminthes
- (d.) A Molluscs, B Porifera
- 12. Which of the following option is wrong?
 - (a.) Coelenterates and ctenophores are diploblastic.
 - (b.) Animals from Platyhelminthes to chordates are triploblastic.
 - (c.) Radially symmetric animals remain attached to a surface by their aboral surface.
 - (d.) Mesoglea is an undifferentiated layer which do not form any tissue or organ.
- 13. Choose the incorrect match
 - (a.) Tube-within-tube body plan: Nemathelminthes, Annelida, Arthropoda, Mollusca, Echinodermata, Chordata
 - (b.) Cell-aggregate type body plan: Coelenterates
 - (c.) Blind-sac type body plan: Platyhelminthes and coelenterates
 - (d.) None of these
- 14. Which of the following is/are the function of coelom?
 - (a.) Absorb shock or provide hydrostatic skeleton
 - (b.) Support shock or provide hydrostatic skeleton
 - (c.) Allow muscles to grow independently of the body wall
 - (d.) All of these
- 15. The diagram below shows the diploblastic and triploblastic germ layers in the animals.
 Identify the correct option in which they are found.



- (a.) A Molluscs, B Chordates
- (b.) A Annelida, B Porifera
- (c.) A Coelenterates, B Platyhelminthes
- (d.) Molluscs, B Porifera
- 16. Choose the incorrect option
 - (a.) True coelom is a body cavity which arises as a cavity in the embryonic mesoderm.

- (b.) Digestive cavity is found in acoelomates, pseudocoelomates as well as coelomates.
- (c.) The body cavity of arthropods and non-cephalopod molluscs is called hoemocoel.
- (d.) There is no cavity between the body wall and gut wall in echinoderms.
- 17. Metamerism is present in
 - (a.) annelids
 - (b.) arthropods
 - (c.) chordates
 - (d.) all of these
- 18. Choose the incorrect match:
 - (a.) Coelenterates Radial symmetry
 - (b.) Molluscs Radial symmetry in adults
 - (c.) Platyhelminthes Triploblastic
 - (d.) Ctenophores Triploblastic
- 19. Choose the correct label for A, B, C and D in the broad Classification of Kingdom Animalia based on common fundamental features as given below.



| | Α | В | С | D |
|----|-----------|------------|------------|-------------|
| A) | Bilateral | Porifera | Ctenophora | Coelomat e |
| В) | Radial | Porifera | Ctenophora | Acoeloma te |
| C) | Bilateral | Porifera | Ctenophora | Coelomat e |
| D) | Radial | Ctenophora | Porifera | Acoeloma te |

- 20. Choose the incorrect statement.
 - (I) Notochord is ectodermally derived rod-like structure.

- (II) Notochord is formed on the dorsal side during embryonic development.
- (III) The animals from porifera to Echinoderms are without notochord.
- (IV) In some chordates, notochord is replaced by the vertebral column and these chordates are called vertebrates.
- (a.) I and II (b.) I, II, and III (c.) II, III and IV (d.) I only
- Identify the correct labels A and B.

| Notochord | Nerve Cord |
|--------------------------|---|
| А | Part of nervous system |
| Found in chordates only | Found in chordates as well as non-chordates |
| Dorsal side in chordates | В |

- A) A= Exoskeleton, B= Dorsal in chordates as well as in non-chordates
- B) A= Endoskeleton; B= Ventral in chordates as well as in non-chordates
- C) A= Exoskeleton; B= Ventral in chordates and dorsal in nonchordates
- D) A= Endoskeleton; B= Dorsal in chordates and ventral in nonchordates
- 22. True coelom appear in which of the following during evolution?
 - (a.) Echinodermata
- (b.) Annelida
- (c.) Platyhelminthes
- (d.) Aschelminthes
- 23. The layer absent in the embryos of diploblastic animals is
 - (a.) ectoderm
- (b.) endoderm
- (c.) mesoderm
- (d.) mesoglea
- 24. Nerve cells and tissue level of organization first appeared in
 - (a.) coelenterates (b.) ctenophora (c.) chordate
- (d.) porifera
- 25. In some animal groups, the body is found divided into compartments with at least some organs. This characteristic feature is called [Pg-48,E]

- (a.) segmentation (b.) metamerism (c.) metagenesis (d.) metamorphosis
- Body cavity is the cavity present between body wall and gut wall. In some animals the 26. body cavity is not lined by mesoderm. Such animals are called
 - (a.) acoelomate

(b.) pseudocoelomate

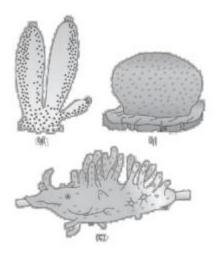
(c.) coelomate

- (d.) haemocoelomate
- 27. Match the following Columns

| | Column-I (Phylum) | Column-II (Characteristic Features) | | | |
|-----|-------------------|-------------------------------------|--|--|--|
| (A) | Porifera | (1) Canal system | | | |
| (B) | Aschelminthes | (2) Water vascular system | | | |
| (C) | Annelida | (3) Muscular pharynx | | | |
| (D) | Arthropoda | (4) Joined appendages | | | |
| (E) | Echinodermata | (5) Metameres | | | |

| Select the correct option (A) (B) (C) (D) (E) A) 1 3 5 4 2 B) 1 2 3 4 5 C) 5 4 3 2 1 D) 4 3 1 2 5 8. Which of the following animals are true coelomates with bilateral symmetry? (a.) Adult echinoderms (b.) Aschelminthes (c.) Platyhelminthes (d.) Annelids 9. Assertion: The primary character of chordates is the presence of dorsal hollow nerve cord. Reason: Vertebral column is derived from the notochord. (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion. (c.) Assertion is true, but Reason is false. (d.) Assertion: Asimals with radial symmetry has more advantage in detecting food and danger. Reason: It allows animal to be able to respond to stimulus from any direction. (a.) Both Assertion and Reason are true and Reason is not the correct explanation of Assertion. (c.) Assertion is false, but Reason is false. (d.) Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (a.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (c.) Assertion is false, but Reason is false. (d.) Assertion is false, but Reason is false. (d.) Assertion is false, but Reason is false. (d.) Assertion is false, but Reason is rue. 11. Assertion: Aschelminthes represent pseudocoelomates. Reason: In aschelminthes, mesoderm is present as scattered pouches in between ectoderm and endoderm. (a.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (c.) Assertion is false, but Reason is false. (d.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (c.) Assertion is false, but Reason is false. (d.) As | | | | | | | | | | |
|--|-----|---|---|--|--|--|---|--|--|-----------------------------|
| B) 1 2 3 4 5 C) 5 4 3 2 1 D) 4 3 1 2 5 28. Which of the following animals are true coelomates with bilateral symmetry? (a.) Adult echinoderms (b.) Aschelminthes (c.) Platyhelminthes (d.) Annelids 29. Assertion: The primary character of chordates is the presence of dorsal hollow nerve cord. Reason: Verlebral column is derived from the notochord. (a.) Both Assertion and Reason are true, but Reason is correct explanation of Assertion. (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (c.) Assertion is true, but Reason is false. (d.) Assertion is false, but Reason is from the notochord. (a.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (c.) Assertion is false, but Reason is from the correct explanation of Assertion. (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion. (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (c.) Assertion is true, but Reason is false. (d.) Assertion is false, but Reason is frue. 31. Assertion: Aschelminthes represent pseudocoelomates. Reason: In aschelminthes, mesoderm is present as scattered pouches in between ectoderm and endoderm. (a.) Both Assertion and Reason are true and Reason is not the correct explanation of Assertion. (c.) Assertion is true, but Reason is false. (d.) Assertion is true, but Reason is false. (d.) Assertion is false, but Reason is false. (d.) South Assertion and Reason are true and Reason is not the correct explanation of Assertion. (c.) Assertion is true, but Reason is false. (d.) Ostical (a.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (c.) Assertion is true, but Reason is false. (d.) Ostical (a.) Assertion and Reason are true, but Reason is not the correct explanation of Assertion. (a.) Both Assertion is false, but Reason is false. (d.) Ostical (a.) Assertion is false. (d.) Assertion is false, but Reason is false. (a.) Both Assertion and R | | (A) (B) | (C) | (D) | (E) | | | | | |
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| 32. Sponges are (a.) with water canal system (b.) sexually reproducing by formation of gametes (c.) both (a) and (b) (d.) sessile or free-swimming 33. In case of poriferans, the spongocoel is lined with flagellated cells called (a.) ostia (b.) oscula (c.) choanocytes (d.) mesenchymal cells 34. Body having meshwork of cells, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum (a.) coelenterate (b.) porifera (c.) Mollusca (d.) protozoa 35. In most simple type of canal system of porifera, water flows through which one of the following ways? | | Reason: Ver (a.) Both Ass (b.) Both Ass Assertion. (c.) Assertion (d.) Assertion: Ar danger. Red (a.) Both Ass (b.) Both Ass (b.) Both Ass Assertion. (c.) Assertion (d.) Assertion: As mesoderm is (a.) Both Ass (b.) Both Ass (b.) Both Ass (c.) Assertion. (c.) Assertion. | sertion of | and Reand Re | eason are traceason are traceason is false Reason is true animal to be eason are traceason is false represent potential are traceason are traceason are traceason are traceason is false reason is false reaso | ue and ue, but se. Je. seudoches ue, but se. Je. se. Je. se. Je. Je. Je. Je. Je. Je. Je. Je. Je. J | Reason is co Reason is not more advanta to respond to Reason is co Reason is not coelomates. R in between e Reason is co Reason is not | rrect explored the correct exp | ect explanation fecting food ar from any direct anation of Asse ect explanation aschelminthes, and endoderm anation of Asse | nd ion. irtion. of |
| (a.) with water canal system gametes (c.) both (a) and (b) (d.) sessile or free-swimming 33. In case of poriferans, the spongocoel is lined with flagellated cells called (a.) ostia (b.) oscula (c.) choanocytes (d.) mesenchymal cells 34. Body having meshwork of cells, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum (a.) coelenterate (b.) porifera (c.) Mollusca (d.) protozoa 35. In most simple type of canal system of porifera, water flows through which one of the following ways? | 32. | Sponges are |) | | | | | | | |
| 33. In case of poriferans, the spongocoel is lined with flagellated cells called (a.) ostia (b.) oscula (c.) choanocytes (d.) mesenchymal cells 34. Body having meshwork of cells, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum (a.) coelenterate (b.) porifera (c.) Mollusca (d.) protozoa 35. In most simple type of canal system of porifera, water flows through which one of the following ways? | | gametes | | · | em | ` , | , , | | formation of | |
| (a.) ostia (b.) oscula (c.) choanocytes (d.) mesenchymal cells 34. Body having meshwork of cells, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum (a.) coelenterate (b.) porifera (c.) Mollusca (d.) protozoa 35. In most simple type of canal system of porifera, water flows through which one of the following ways? | | (c.) both (a) | and (k | O) | | (d.) s | essile or tree-s | swimming | | |
| 34. Body having meshwork of cells, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum (a.) coelenterate (b.) porifera (c.) Mollusca (d.) protozoa 35. In most simple type of canal system of porifera, water flows through which one of the following ways? | 33. | In case of p | oriferar | ns, the | spongocoe | l is lined | d with flagello | ited cells (| called | |
| and indirect development are the characteristics of phylum (a.) coelenterate (b.) porifera (c.) Mollusca (d.) protozoa 35. In most simple type of canal system of porifera, water flows through which one of the following ways? | | (a.) ostia | | | (b.) oscula | | (c.) choano | cytes (d.) | mesenchymal | cells |
| 35. In most simple type of canal system of porifera, water flows through which one of the following ways? | 34. | | - | | | | | | ring flagellated | d cells |
| following ways? | | (a.) coelent | erate | | (b.) porifer | а | (c.) Mollusco | ä | (d.) protozo | а |
| | 35. | following wo | ays \$ | | | | | ws through | n which one of | the |

- (b.) Spongocoel → Ostia → Osculum → Exterior
- (c.) Osculum → Spongocoel → Ostia → Exterior
- (d.) Osculum → Ostia → Spongocoel → Exterior
- 36. Examine the figures A, B, and C.



In which one of the four options all the animals (Poriferans) are correct?

- (a.) A Sycon, B Euspongia, C Spongilla
- (b.) A Euspongia, B Spongilla, C Sycon
- (c.) A Spongilla, B Sycon, C Euspongia
- (d.) A Euspongia, B Sycon, C Spongilla
- 37. Which of the following is a freshwater sponge?
 - (a.) Euspongia (b.) Euplectella (c.) Spongilla
 - In poriferans, the rudimentary division of labour is found between the
 - (a.) tissue (b.) cells (c.) organs (d.) organ-system
- 39. Which of the following is not a characteristic of class Porifera?
 - (I) Development is indirect (larval stage is present).
 - (II) Mostly asymmetrical and usually marine
 - (III) Primitive multicellular animals with cellular level of organization.
 - (IV) Choanocytes line the spongocoel and the canals. (V) Sexes are separate
- (a.) I and IV (b.) II only (c.) V only 40. Choose the correct characteristic for sponges.
 - (a.) They are highly regenerative
 - (b.) They are universally radially symmetrical
 - (c.) The contain clarions spicules but lack the siliceous one
 - (d.) They are found only in fresh water

COELENTERATA

41. Cnidocytes are

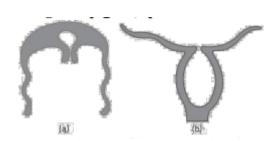
38.

- (a.) also called cnidoblast or nematocyte
- (b.) explosive cells each of which contain giant secretory organelle called nematocyst
- (c.) stinging cells
- (d.) with all the above features
- 42. Consider the following statements about cnidarians:
 - (I) They have tissue level of organization and triploblastic.
 - (II) Digestion is extracellular and intracellular.
 - (III) Corals secrete calcium bicarbonate form a skeleton.

(d.) Sycon

(d.) III and IV

- (IV) Corals may harbour some photosynthetic dinoflagellates for taking nutrition.
- (V) They possess a central gastrovascular cavity with a single opening mouth in hypostome.
- (a.) Statements I and III are correct
- (b.) Statements II, IV and V are correct
- (c.) Statements I, II and III are correct
- (d.) Statements III and IV are incorrect
- 43. Here two basic body forms of cnidarians are given.



- (a.) A and B are false swimming forms
- (b.) A and B are sessile form
- (c.) A produce B asexually and B form the 'A' sexually
- (d.) B produce A sexually and A form the 'B' sexually
- 44. Match the columns.

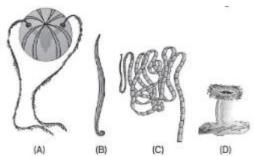
| | Column-l | | Column-II |
|-----|-----------|-----|-----------------------------|
| (A) | Gorgonia | (1) | Sea fan |
| (B) | Adamsia | (2) | Sea pen |
| (C) | Physalia | (3) | Portuguese man of war |
| (D) | Pennatula | (4) | Sea anemon e |

Select the correct option

- (A) (B) (C) (D)
- A) 1 3 4 2
- B) 1 2 3 4
- C) 4 3 2 1 D) 3 4 1 2
- 45. 'Stinging capsules' or nematocytes are found in
 - (a.) sea anemone (b.) sea pen (c.) sea fan (d.) all of these
- 46. Assertion: Choanocytes or collar cells line the spongocoel and the canals in poriferans. Reason: Poriferans possess spicules or spongin fibers.
 - (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
 - (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
 - (c.) Assertion is true, but Reason is false.
 - (d.) Assertion is false, but Reason is true.

CTENOPHORA

- 47. Ctenophores
 - (a.) perform external fertilization
 - (b.) have indirect development
 - (c.) both (a) and (b)
 - (d.) have separate sexes
- 48. Identify the correct option specifying the names of the animals A, B, C and D.



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|----|----------------|-----------|-------------|---------|
| | (A) | (B) | (C) | (D) |
| A) | Pleurobranchia | Tapeworm | Taenia | Aurelia |
| В) | Fasciola | Tapeworm | Liver fluke | Aurelia |
| C) | Pleurobranchia | Roundworm | Taenia | Adamsia |
| D) | Fasciola | Roundworm | Liver fluke | Adamsia |

PLATYHELMINTHES

- 49. In tapeworms
 - (a.) flame cells are absent
 - (b.) both exoskeleton and endoskeleton present
 - (c.) hooks and suckers present
 - (d.) body is radially symmetrical
- 50. Which of the following is not a Platyhelminthes
 - (a.) Wuchereria
- (b.) Taenia
- (c.) Faxiola
- (d.) Planaria

- 51. Ascaris is characterized by
 - (a.) the absence of true coelom but presence of metamerism
 - (b.) the presence of neither true coelom nor metamerism
 - (c.) the presence of true coelom but the absence of metamerism
 - (d.) the presence of true coelom and metamerism
- 52. Which of the option is correct for the statements given below.
 - (I) Commonly called sea walnuts or comb jellies.
 - (II) Bioluminescence is well marked.
 - (III) Body bear eight external rows of ciliated comb plates. (IV) They have flame cells for osmoregulation and excretion.
 - (V) Alimentary canal is complete with a well-developed muscular pharynx.

| | Ctenophores | Platyhelminthes | Aschelminthes |
|----|-------------|-----------------|---------------|
| A) | 1, 11, 111 | IV | ٧ |
| В) | IV | 1, 11 | III, V |

| C) | 1, 11 | III, IV | V |
|----|-------|---------|---|
| D) | IV, V | II, III | I |

- 53. Phylum Platyhelminthes members are
 - (a.) dorsoventrally flattened, thus called flatworms
 - (b.) bilaterally symmetrical, triploblastic and acoelomates
 - (c.) with organ system level of organization
 - (d.) with all the above features
- **54**. Assertion: Taenia Solium and Dugesia belong to Platyhelminthes.

Reason: Platyhelminthes are coelomates.

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.
- 55. Assertion: The organisms of Platyhelminthes are usually hermaphrodite. Reason: These organisms possess internal as well as external fertilization.
 - (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
 - (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
 - (c.) Assertion is true, but Reason is false.
 - (d.) Assertion is false, but Reason is true.

ASCHELMINTHES

- **56.** Consider the following statements about aschelminthes:
 - (I) Their body is circular in crosssection, so are called round worms.
 - (II) Alimentary canal is incomplete
 - (III) Muscular pharynx is present
 - (IV) They are hermaphrodites Which of the following is correct?
 - (a.) I and III

(b.) II and IV

(c.) I, II and IV

(d.) IV only

- 57. Choose the incorrect option.
 - (a.) Mesoglea is present in between ectoderm and endoderm in Obelia.
 - (b.) Asterias exhibits radial symmetry.
 - (c.) Fasciola is pseudocoelomate animal.
 - (d.) Taenia is a triploblastic animal
- 58. Out of the given cells, which of them can differentiate and perform different functions?
 - (a.) Choanocytes

(b.) Interstitial cells

(c.) Gastrodermal cells

(d.) Nematocysts

- 59. Blood sucking leech is
 - (a.) Nereis
- (b.) Hirudinaria (c.) Pheretima
- (d.) All of these
- 60. Which one of the following endoparasites of humans does show viviparity?
 - (a.) Ancylostoma duodenale (b.) Enterobius spiralis

(c.) Trichinella spiralis

- (d.) Ascaris lumbricoides
- 61. Assertion: Aschelminthes and Annelids possess bilateral symmetry.

Reason: Both Aschelminthes and Annelids are coelomates.

(a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.

- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.

ANNELIDA

- 62. Which of the following animals are true coelomates with bilateral symmetry?
 - (a.) Adult echinoderms

(b.) Aschelminthes

(c.) Platyhelminthes

- (d.) Annelids
- 63. The name 'Annelida' is given to animal phylum having
 - (a.) parapodia

(b.) metameric segments

(c.) nephridia

(d.) all of these

- 64. In Annelids
 - (a.) neural system consists of paired ganglia connected by lateral nerves to a double ventral nerve cord
 - (b.) reproduction occur both asexually and sexually
 - (c.) like Nereis, Pheretima and Hirudinaria have monoecious condition
 - (d.) Aquatic forms are completely absent.
- 65. Match the columns

| | Column-I | | Column-II |
|-----|-----------------|-----|----------------------|
| (A) | Gills | (1) | King crab |
| (B) | Tracheal system | (2) | Crab, prawn |
| (C) | Book gills | (3) | Butterfly, cockroach |
| (D) | Book lungs | (4) | Scorpion, spider |

- (A) (B) (C) (D)
- A) 1 2 3 4
- B) 2 3 1 4
- C) 4 3 2 1
- D) 3 1 4 2
- 66. Choose the incorrect statement.
 - (a.) In cockroaches and prawns, excretion of waste material occurs through malphigian tubules.
 - (b.) In ctenophores, locomotion is mediated by comb plates.
 - (c.) In fasciola, flame cells take part in excretion.
 - (d.) Earthworms are hermaphrodites and yet cross fertilization takes place among them.
- 67. Consider the following statements:
 - (I) Triploblastic, bilateral symmetry
 - (II) Metamerically segmental and coelomate animals
 - (III) Dioecious
 - (IV) Closed circulatory system
 - (V) Lateral appendages

(VI) Annelida



Which of the following information's belongs to the given animal.

(a.) I, II, IV, VI

(b.) I, III, IV, V

(c.) II, III, IV, V

(d.) III, IV, V, VI

ARTHROPODA

- 68. Choose the incorrect set with respect to arthropods.
 - (a.) Limulus, locusta, culex (b.) Bombyx, Apis, lacifer

(c.) Pinctada, Aplysia, Dentalium

(d.) Aedes, Anopheles, Apis

- 69. Balancing organ of aquatic arthropods is
 - (a.) Cnidoblasts

(b.) choanocytes

(c.) scleroblasts

(d.) statocysts

- 70. Which one of the following features is not present in the phylum-Arthropods?
 - (a.) Metameric segmentation

(b.) Parapodia

(c.) Jointed appendages

(d.) Chitinous exoskeleton

- 71. Which one of the following characteristics is mainly responsible for diversification of insects on land?
 - (a.) Segmentation

(b.) Bilateral symmetry

(c.) Exoskeleton

(d.) Eyes

- 72. Which of the following statement is correct?
 - (a.) Insect hemolymph has no role in oxygen transport in most cases.
 - (b.) Insects hemolymph is mostly colourless.
 - (c.) Both (a.) and (b.)
 - (d.) None of these
- 73. Consider the following statements about Arthropods.



- (I) Open circulatory system is found in most arthropods.
- (II) Arthropods contain Haemolymph which directly bathes in internal tissues and organs.
- (a.) I is true but II is false

(b.) I is false but II is true

(c.) Both I and II are true

(d.) Both I and II are false

- 74. Moulting
 - (a.) is also called ecdysis
 - (b.) occurs to shed chitin at regular intervals by many arthropods
 - (c.) is the shedding of cuticle in many invertebrates
 - (d.) all of these
- 75. Maggot is the larva of
 - (a.) housefly
- (b.) crab
- (c.) moth (d.) butterfly

MOLLUSCA

- 76. Choose the incorrect statement for phylum Mollusca.
 - (a.) Body is covered by a calcareous shell and unsegmented.
 - (b.) Feather like gills present for excretion and respiration.
 - (c.) The anterior head region has sensory tentacles.
 - (d.) Mostly terrestrial, triploblastic and acoelomates.
- 77. Choose the correct names for the following.

| | A | В | С | D |
|-----|----------|-----------|---------|----------|
| (a) | Scorpion | Prawn | Loligo | Asterias |
| (b) | Scorpion | Prawn | Octopus | Ophiura |
| (c) | Locust | Butterfly | Loligo | Asterias |
| (d) | Locust | Prawn | Squid | Ophiura |

- 78. **Assertion:** In many gastropods, the arms and the mental cavity are placed anteriorly above the head. Reason: During embryonic development in many gastropods, one side of the visceral mass grows faster than the other side. This uneven growth rotates the visceral organs up to 180° in many gastropods.
 - (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
 - (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
 - (c.) Assertion is true, but Reason is false.
 - (d.) Assertion is false, but Reason is true.
- Assertion: In molluscs, feathers like gills are present in the mantle cavity. Reason: These gills have respiration and excretory function.
 - (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
 - (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
 - (c.) Assertion is true, but Reason is false.
 - (d.) Assertion is false, but Reason is true.
- Which of the following statements represents the incorrect feature of Echinodermata?
 - (a.) They are triploblastic and coelomate animals.
 - (b.) All are marine with cellular level of organization.
 - (c.) Endoskeleton of calcareous ossicle.
 - (d.) None of these

- 81. Which of the following is the feature of water vascular system in Echinoderms?
 - (a.) Locomotion

(b.) Respiration

(c.) Capture and transport of food

(d.) All of these

- 82. Choose the correct statement for star fish. (I) Sexes are separate and reproduction is sexual (II) Development is indirect with freeswimming larva (III) Mouth is present on the upper (dorsal) side and anus on the lower (ventral) side. (IV) Their body bear jaw-like structure which is called oral arms.
 - (a.) I and III

(b.) I, II and IV

(c.) I, II and III

(d.) III and IV

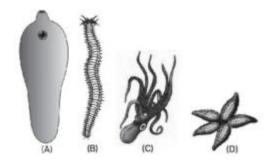
- 83. Which one for the following animals does not undergo metamorphosis?
 - (a.) Moth

(b.) Tunicate

(c.) Earthworm

(d.) Starfish

84. Choose the correct statement for the following animals.

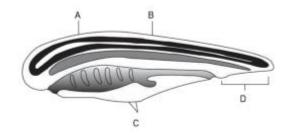


- (a.) All the animals are aquatic, free living
- (b.) All are true coelomates
- (c.) 'A' has radial symmetry but remaining have bilateral symmetry
- (d.) 'A' is monoecious but remaining are dioecious
- 85. Which of the following is incorrect statement for Hemichordata?
 - (a.) They are bilaterally symmetrical, triploblastic and coelomate.
 - (b.) Circulation is of open type.
 - (c.) Sexes are separate, fertilization is external and development is indirect.
 - (d.) None of these
- 86. Select the feature which is/are not present in Hemichordates.
 - (a.) Stomochord
 - (b.) Worm-like body
 - (c.) Gills
 - (d.) All of these
- 87. The correct classification of given animal is
 - (a.) Chordata Vertebrata Craniata
 - (b.) Chordata Craniata
 - (c.) Chordata Acraniata
 - (d.) Non-chordata Hemichordata
- 88. The body of Balanoglossus is divisible into

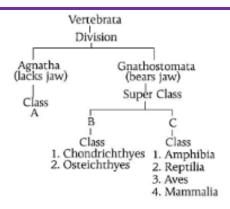
- (a.) proboscis, tunic and trunk
- (b.) collar, trunk and tunic
- (c.) proboscis, collar and trunk
- (d.) proboscis, stomochord and trunk
- 89. An important characteristics that hemichordates share with chordates is
 - (a.) absence of notochord
 - (b.) ventral tubular nerve cord
 - (c.) pharynx with gill slits
 - (d.) pharynx without gill slits

CHORDATA

- 90. Which of the following is not found in the phylum chordate
 - (a.) A dorsal hollow nerve chord
 - (b.) Lateral paired gill slits during development
 - (c.) A notochord at some stage of development
 - (d.) An external skeleton
- 91. Animals belonging to phylum-chordata are fundamentally characterized by the presence of structure noted as A, B, C and D. Identify A, B, C and D.



- (a.) A Notochord, B Nerve cord, C Gill slits, D post anal part
- (b.) A Nerve cord, B Notochord, C Gill slits, D Post anal part
- (c.) A Nerve cord, B Notochord, C Post anal part, D Gill Slits
- (d.) A nerve cord, B Gill slits, C Notochord, D post anal part
- 92. Choose the incorrect vertebrate character.
 - (a.) Ventral muscular heart
 - (b.) Kidneys for excretion and osmoregulation
 - (c.) Paired appendages which may be fins or limbs
 - (d.) None of these
- 93. The following flow chart for division of sub phylum vertebrata fill in the parts A, B, C and D and choose the correct option.



| | Α | В | С |
|----|--------------|--------------|--------------|
| A) | Ostracodermi | Pisces | Tetrapoda |
| В) | Cyclostomata | Pisces | Tetrapoda |
| C) | Ostracodermi | Cyclostomata | Pisces |
| D) | Pisces | Tetrapoda | Cyclostomata |

94. Select the correct difference between the notochord in the following:

| | Urochordata | Cephalochordata |
|----|--|--|
| A) | Present only in larval tail | Extend from head to tail throughout life |
| В) | present only in adult | Present only in larval tail |
| C) | Persistent throughout their life | Present only in adult |
| D) | Extend from head to tail throughout life | Present only in larval tail |

- 95. Consider the following statements.
 - (I) Lancelets are jawless, primitive fishlike vertebrates.
 - (II) In lancelets notochord, tubular nerve cord and pharyngeal gills slits are present throughout their life.
 - (a.) I is true, but II is false
 - (b.) I is false, but II is true
 - (c.) Both I and II are true
 - (d.) Both I and II are false
- 96. Which of the following represents the correct combination without any exception?

| | Characteristic | Class |
|----|--|----------|
| A) | Mammary gland; hair on body; pinnae; two pairs | Mammalia |

| | of limbs | |
|----|--|----------------|
| В) | Mouth ventral; gills without operculum skin with placoid scales; persistent notochord | Chondrichthyes |
| C) | Sucking and circular mouth, jaws absent integument without scales; paired appendages | Cyclostomata |
| D) | Body covered with feathers; skin moist and glandular; lungs with air sacs forelimbs from wings | Aves |

- 97. Among the following edible fishes, which one is a marine fish having rich source of omega-3 fatty acids?
 - (a.) Mystus
- (b.) Mangur
- (c.) Mrigala
- (d.) Mackerel

- 98. Which one is not cartilaginous fish?
 - (a.) Carcharoden (great white shark), Trygon (sting ray)
 - (b.) Exocoetus (flying fish), catla (katla), clarias (Mangur)
 - (c.) Scolidon (dog fish)
 - (d.) Pristis (saw fish)
- 99. Following are few examples of bony fishes. Choose the odd one out as marine bony fish.
 - (a.) Flying fish

- (b.) Hippocampus (sea horse)
- (c.) Both (a) and (b)
- (d.) Labeo (rohu), catla, clarias
- 100. Which of the following is not a characteristic of class chondrichthyes?
 - (a.) Gill slits are separated and without operculum.
 - (b.) Predaceons with powerful jaws.
 - (c.) Notochord is persistent throughout life.
 - (d.) Airbladder present.
- 101. Which of the following characteristic features always holds true for the corresponding group of animals?
 - (a.) Viviparous Mammalia
 - (b.) Possess a mouth with an upper and a lower jaw Chordata
 - (c.) Three-chambered heart with one incompletely divided ventricle Reptilia
 - (d.) Cartilaginous endoskeleton Chondrichthyes
- 102. Bony fishes are
 - (a.) having external fertilization
- (b.) mostly oviparous
- (c.) with direct development
- (d.) all of these
- 103. Bony fishes stay at any particular depth in water without spending energy due to
 - (a.) Operculum
- (b.) Neuromuscles (c.) Pneumatic bones (d.) Swim bladder

104. Choose the incorrect statement?

- (a.) Both cartilaginous and bony fishes are dioecious
- (b.) Cartilaginous fishes show sexual dimorphism
- (c.) Male cartilaginous fish have claspers
- (d.) Female cartilaginous fish have claspers
- 105. Choose the correct option for the given figures.



- (a.) Animal A is salamandra and B is chameleon.
- (b.) Both A and B belongs to class Reptilia.
- (c.) Fertilization is external in both.
- (d.) Animal A has 2-chambered heart and B has 3-chambered heart.
- 106. Choose the incorrect option for the following animal.



- (a.) Cloaca present
- (b.) Dioecious, external fertilization, oviparous, indirect development
- (c.) Body divisible into head and trunk
- (d.) Eyes are without eyelids.
- 107. Which one of these animals is not a homeotherm?
 - (a.) Camelus
- (b.) Chelone
- (c.) Macropus
- (d.) Psittacula
- 108. Identify the vertebrate group of animals characterized by crop and gizzard in its digestive system.
 - (a.) Aves
- (b.) Reptilia
- (c.) Amphibia
- (d.) Osteichthyes
- 109. Which among these is the correct combination of aquatic mammals?
 - (a.) Seals, dolphin, sharks
- (b.) Dolphins, seals, trygon
- (c.) Whales, dolphins, seals

- (d.) Trygon, whales, seals
- 110. Which one of the following characteristic is not shared by birds and mammals?
 - (a.) Breathing using lungs
- (b.) Viviparity
- (c.) Warm-blooded nature

- (d.) Ossified endoskeleton
- 111. Which of the following animals is not viviparous?
 - (a.) Flying fox (bat)

(b.) Elephant

(c.) Platypus

- (d.) Whale
- 112. Choose the correct option having animals with four chambered heart?
 - (a.) Amphibian, reptiles, birds
- (b.) Crocodiles, birds, mammals

(c.) Lizards, crocodiles, turtles

(d.) Lizards, mammals, birds

- 113. The animal pair with non-glandular skin are
 - (a.) snake and frog

(b.) crocodile and tiger

(c.) frog and pigeon

- (d.) chameleon and turtle
- 114. Which of the following characteristic is shared by both birds and mammals?
 - (a.) Pigmented skin
- (b.) Pneumatic bones

(c.) Viviparity

- (d.) Warm-blooded body
- 115. Which of the following sets of animals belongs to a single Taxonomic group?
 - (a.) Man, monkey, chimpanzee
 - (b.) Cuttlefish, jellyfish, silver fish, dog fish, starfish
 - (c.) Bat, pigeon, butterfly
 - (d.) Silkworm, tapeworm, earthworm
- 116. Match the following columns.

| | Column-I | | Column-II |
|-----|---------------|-----|--------------|
| (A) | Cyclostomes | (1) | Hemichordata |
| (B) | Aves | (2) | Urochoradata |
| (C) | Tunicates | (3) | Agnatha |
| (D) | Balanoglossus | (4) | Pisces |
| (E) | Osteichthyes | (5) | Tetrapod |

Codes

| Α | В | С | D | E |
|------|---|---|---|---|
| A) 1 | 2 | 3 | 4 | 5 |
| B) 2 | 3 | 4 | 1 | 5 |
| C) 3 | 5 | 2 | 1 | 4 |
| D) 3 | 1 | 5 | 2 | 4 |

- 117. Which of the following is incorrect for Petromyzon?
 - (a.) Cranium and vertebral column are cartilaginous
 - (b.) They are freshwater organisms but migrate for spawning to sea water
 - (c.) After spawning within few days, they die
 - (d.) Their larvae, after metamorphosis, return to ocean
- 118. Match the name of the animal in Column I with one characteristic in Column II and the phylum/class in column III to which it belongs.

| | Column-I | Column-II | Column-III |
|-----|-------------|---------------------------------------|--------------|
| (a) | Petromyzon | Ectoparasite | Cyclostomata |
| (b) | Ichthyophis | Terrestrial | Reptilia |
| (c) | Limulus | Body covered by chitinous exoskeleton | Pisces |

| | (d) | Adamsia | Radially sy | mmetrical | | Porifera |
|-----|--------------------|--|---|---------------------------------|--|--|
| | | | ct subphylum c (b.) Vertebrate | | | d.) Urochordata |
| | (a.) in | | data and cep throughout lif | | (b.) are (d.) All of the | e exclusively marine se |
| | (a.) Pc | se the incorred aired pharyngo ost anal tail | ct option for ch eal gill slits | (b.) | 4,E] Coelomate dip d circulatory sys | |
| 22. | Choo | se the correct | option for the | animals showr | n below. | |
| | | | | | | |
| | (b.) Ci (c.) De | irculatory syste | em is open typo always direct. | | and genus Ascid | lia. |
| | (a.) cc | in of amphibic an be smooth ossess eutaned | or rough | · · · | are usually with both (a) and (b | |
| | (a.) m | • | 7,E] y organs are a s universally pre | | · , | rphosis is usually abs erves are absent |
| 25. | Read | the following s | statements. [Po | g57,58,H] | | |
| | (I) Ret | ention of larvo | al trait is called | neoteny. | | |
| | (II) The | e largest amph | nibian is Crypto | brances. | | |
| | (III) Se | ymousia is a c | onnecting link | between amp | hibian and rept | iles. |
| | (IV) Lo | ırva of Ambyst | oma is called | axolotl. | | |
| | correc | ct statement | phibians formed (b.) II and III | d without unde (c.) I, II an | | orphosis. Choose the , III and IV |
| 26. | Match | n the columns. | | | | |
| | | | | | | |

| | Column-I | | Column-II |
|-----|-----------|-----|-------------|
| (A) | Chameleon | (1) | Tortoise |
| (B) | Testudo | (2) | Tree lizard |

| | (C) | Calotes | (3) | Garden lizard | | | |
|------|---|--|--------------------------|--|---|--|--|
| | (D) | Chelone | (4) | Turtle | | | |
| 127. | D) (Choc (a.) S (b.) K (c.) Li | 1 2 3 1 3 2 2 1 3 3 1 4 ose the incorrect exes are separ idneys are metalimbs are alway | ate. tanep rs pres | | • | | |
| 128. | (a.) c air sa | [Pg-58,E] Ire poikilotherm cs Ire bipeds | าร | | (b.) have respiration performed only by the(d.) endoskeleton is ossified partially | | |
| 129. | (a.) C | he incorrect m Crow – Corvus arrot – Psittacu | | | Pigeon – Columba (d.) Penguin – Pavo | | |
| 130. | 30. Which of the following is incorrect? [Pg58,M] (a.) Aves possess poor olfactory system.(b.) Aves are partially homeotherms.(c.) Aves bones are hollow with air cavities.(d.) Aves have sexes separate, fertilization is internal, oviparous with direct development. | | | | | | |
| 131. | 31. Syrinx present in birds [Pg-58,E] (a.) helps in producing sound (b.) lie near the junction of trachea and bronchi (c.) both (a.) and (b.) (d.) helps in excretion of urea | | | | | | |
| 132. | (a.) th (b.) re (c.) th | nost unique mone presence of eproducing you no presence of the | two pung o | nes | Pg-58,E] | | |
| 133. | | lands | mals i | s unique in posse (b.) epidermal l (d.) both | | | |
| 134. | (a.) n | t is always four nammals eptiles | cham | bered in[Pg59,E] (b.) aves (d.) both (a) an | | | |
| 135. | (a.) N | Mammals, birds | , repti | les and amphibi | ollowing: [Pg-59,M] ans possess 12 pairs of cranial nerves. e outside the body cavity in scrotal sacs | | |

- (c.) The neck of mammals generally possess 5 cervical vertebrae
- (d.) Archeopteryx is a fossil animal.
- 136. Choose the odd one out. [Pg-60,M]
 - (a.) Prototheria Ornithorlynchus
- (b.) Marsupilia Macropus

(c.) Metatheria – Maceaea

- (d.) Eutheria Homo
- 137. Choose the correct option for A, B, C and D.

| Prototherians | Metatherians | Eutherians |
|----------------------------------|---------------------------------|----------------------------------|
| А | Viviparous | Viviparous |
| Nipples absent on mammary glands | В | Nipples present |
| С | Vagina and uterus present | Vagina and uterus prese nt |
| Ear is devoid of pinna | Pinna is present | D |
| Scrotum absent | Scrotum present | Scrotum present |

- A) A = Oviparous
 - B = Nipples present
 - C = Vagina and uterus absent
 - D = Pinna is absent in aquatic forms
- B) A = Oviparous
 - B = Nipples present
 - C = Vagina and uterus absent
 - D =Pinna is universally forms
- C) A = Viviparous
 - B = Nipples present
 - C = Vagina and uterus absent
 - D = Pinna is absent in aquatic forms
- D) A = Oviparous
 - B = Nipples absent
 - C = Vagina and uterus absent
 - D = Pinna is present only in aquatic forms.
- 138. Tetrapods [Pg-57-60]
 - (a.) lack paired appendages and pentadactyl limbs
 - (b.) universally possess gills
 - (c.) possess sense organ functional in air
 - (d.) dwell only in terrestrial zones
- 139. Identify A, B, C and D in the table given below.

| Amphibians | Reptiles | Birds | Mammals |
|--------------------------|----------------|-----------------------|---------|
| Scales usually absent | A | Present on hind limbs | Absent |
| Cloaca present | Cloaca present | Cloaca abs ent | В |

| Erythrocytes oval, biconvex and nucleated | RBC oval, biconvex and nucleated | Erythrocytes oval, biconvex x and nuclea ted | RBC circular biconcave and non-nucleated |
|---|--|---|---|
| Three chambered | Three chambered heart | С | Four chambered heart with left systemic arch |
| External ear absent | External ear may be present | D | External ear with pinna present |

- (a.) A = Scales absent B = Cloaca mainly present C = Four chambered heart with left systemic arch D = External ear absent
- (b.) A = Scales present B = Cloaca mainly absent C = Three chambered heart D = External ear absent
- (c.) A = Scales absent B = Cloaca mainly present C = Three chambered heart with right systemic arch D = External ear present
- (d.) A = Scales present B = Cloaca mainly absent C = Four chambered heart with right systemic arch D = External ear present
- 140. **Assertion:** All vertebrates are chordates.

Reason: Vertebrates possess notochord during embryonic period. [Pg-57,H]

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.
- 141. **Assertion:** All metatherians are placental mammals.

Reason: All placental mammals have menstrual cycle. [Pg59,H]

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.
- 142. **Assertion:** Duck bill platypus is not a true mammal.

Reason: True mammals are all viviparous while platypus are egg laying. [Pg-59,60,H]

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.
- 143. **Assertion:** Bats and whales are classified as mammals.

Reason: Bats and whales have four chambered heart. [Pg-59,60,H]

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of

Assertion.

- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.
- 144. **Assertion:** Mammalian teeth are heterodont.

Reason: Mammals possess more than a single tooth [Pg-59,H]

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.
- 145. **Assertion:** Reptiles are referred to as poikilotherms.

Reason: Reptiles possess eggs with shells which help them to adapt in land environment.

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true.
- 146. **Assertion:** Birds possess moist skin.

Reason: Birds possess oil glands throughout their body.

- (a.) Both Assertion and Reason are true and Reason is correct explanation of Assertion.
- (b.) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- (c.) Assertion is true, but Reason is false.
- (d.) Assertion is false, but Reason is true

NEET PREVIOUS YEARS QUESTIONS

| 1. | Which of the follow | ving animals does not u | ndergo metamorpho | sis? | [2018] |
|------------|---------------------|----------------------------|------------------------|--------------------|--------|
| | (a) Earthworm | (b) Tunicate | (c) Starfish | (d) Moth | |
| 2. | Which one of these | e animals is not a home | otherm? | | [2018] |
| | (a) Macropus | (b) Chelone | (c) Psittacula | (d) Camelus | |
| 3. | Identify the verteb | rate group of animals c | haracterised by crop | and gizzard in its | |
| | digestive system. | | | | [2018] |
| | (a) Amphibia | (b) Reptilia | (c) Osteichthyes | (d) Aves | |
| 4. | In case of porifera | ns, the spongocoel is lin | ed with flagellated c | ells called | · |
| | | | | | [2017] |
| | (a) oscula | (b) choanocytes | (c) mesenchymal | cells (d) ostia | |
| 5 . | An important char | acteristic that hemichor | rdates share with cho | ordates is | [2017] |
| | (a) ventral tubular | nerve cord. | (b) pharynx with g | jill slits. | |
| | (c) pharynx withou | ut gill slits. | (d) absence of no | tochord. | |
| 6. | Which among the | se is the correct combin | nation of aquatic mai | mmals? | [2017] |
| | (a) Dolphins, Seals | , Trygon | (b) Whales, Dolph | ins, Seals | |
| | (c) Trygon, Whales | s, Seals | (d) Seals, Dolphins | s, Sharks | |
| 7 . | Which of the follow | ving features is not prese | ent in the phylum- art | hropoda? | [2016] |
| | (a) Chitinous exosk | celeton | (b) Metameric seç | gmentation | |
| | (c) Parapodia | | (d) Jointed apper | ndages | |
| | | | | | |

| 8. | Which of the following characteristic features always holds true for the corresponding group of animals? | | | | | | | | | | |
|-----|--|--|---|--------------------|---|---------------------|--|--|--|--|--|
| | Ū | Cartilaginous – Chondrich | thves endoske | leton | (b) Viviparous – | [2016] | | | | | |
| | ٠, | mmalia | irryes erideske | CTOTT | (b) viviparous | | | | | | |
| 9. | (c) Possess a mouth – Chordata with an upper and a lower jaw (d) 3 - chambered heart – Reptilia with one incompletely divided ventricle Which one of the following characteristics is not shared by birds and mammals? [2016] (a) Ossified endoskeleton (b) Breathing using lungs (c) Viviparity (d) Warm blooded nature | | | | | | | | | | |
| 10. | ٠, | ch of the following charac | cteristics is mai | ` ' | | sects | | | | | |
| | | and? | | | | [2015] | | | | | |
| | . , | Bilateral symmetry | | (b) Exoskeleton | (c) Eyes (d) | | | | | | |
| 11 | _ | mentation | | | | [201.5] | | | | | |
| 11. | | tagenesis refers to alteration of generation be | etween asevu | al and sexual phas | es of an organism | 〔2015 <u>]</u> 、 | | | | | |
| | (b) (c) (d) | occurrence of a drastic che presence of a segmented presence of different mork | nange in form body and pa phic forms. | during post-embro | yonic developme de of reproductior | nt. 1. | | | | | |
| 12. | | ly having meshwork of cell | | | filtering flagellated | d cells | | | | | |
| | anc | d indirect development are | ethe characte | ristics of phylum: | | | | | | | |
| | (a) | [2015] Porifera (b) Mollu | ISCO | (c) Protozoa | (d) Coelentera | ta | | | | | |
| 13. | ٠, | ch of the following represe | | ` ' | • • | | | | | | |
| 10. | , , , , , | | | | [2015] | | | | | | |
| | | Characteristics | Class | | | | | | | | |
| | (a) | Mouth ventral, gills without | Chondrichthye | s | | | | | | | |
| | | operculum; skin with placoid | | | | | | | | | |
| | | scales; persistent notochord | | | | | | | | | |
| | (b) | Sucking and circular mouth; | Cyclostomata | | | | | | | | |
| | | jaws absent, integument | | | | | | | | | |
| | | without scales; paired | | | | | | | | | |
| | | appendages | | | | | | | | | |
| | (c) | Body covered with feathers; | Aves | | | | | | | | |
| | | skin moist and glandular; | | | | | | | | | |
| | | fore-limbs form wings; | | | | | | | | | |
| | | lungs with air sacs | | | | | | | | | |
| | (d) | Mammary gland; hair on | Mammalia | | | | | | | | |
| | | body; pinnae; two pairs | | | | | | | | | |
| | _ | of limbs | | | | | | | | | |
| 14. | | wless fish, which lays eggs | | and whose ammo | ocoetes larvae afte | | | | | | |
| | | tamorphosis return to the c | | (a) Dalia | / - I \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | [2015] | | | | | |
| 15 | ٠, | Myxine (b) Neor | • | (c) Petromyzon | (d) Eptatretus | [2015] | | | | | |
| 15. | | ch of the following animal Elephant (b) Platy | s is not vivipari pus | (c) Whale | (d) Flying fox (b | | | | | | |
| 16. | ٠, | ect the taxon mentioned th | • | ` ' | , , , , | • | | | | | |
| | | | • | | 1 | [2014] | | | | | |
| | (a) | Echinoderms (b) Cten | iophora | (c) Cephalochor | data (d) Cnidari | ia | | | | | |
| | | | | | | | | | | | |

| 17. | Which one of the following living organisms completely lacks a c | ell wall? | 1001.4 |
|-----|---|---------------------------------------|---------------------|
| | (a) Cyanobacteria (b) Sea – fan (Gorgonia) (d) Blue–green algae | (c) Saccharomy | [2014 ces |
| 18. | Planaria possesses high capacity of | | [2014 |
| | (a) metamorphosis (b) regeneration | | - |
| | (c) alternation of generation (d) bioluminescence | е | |
| 19. | A marine cartilaginous fish that can produce electric current is: | | [2014 |
| | (a) Pristis (b) Torpedo (c) Trygon | (d) Scoliodon | |
| 20. | Match the following organisms with their respective characteristi | cs:- [NEET | -2019] |
| | (a) Pila (i) Flame cells (b) Bombyx (ii) Comb plates | | |
| | (b) Bombyx (ii) Comb plates | | |
| | (c) Pleurobrachia (iii) Radula | | |
| | | | |
| | Select the correct option from the following:- | (a) (b) (a) (| <i>ا</i> ا |
| | (a) (b) (c) (d) (a) (b) (c) (d) (a) (b) (c) (d) (1) (iii) (i) (iv) (2) (iii) (iv) (ii) (i) (3) (ii) (iv) (iii) (i) (4) (iiii) | | ٦) |
| 21. | Match the following genera with their respective phylum: | | 142210 |
| ۷1, | (a) Ophura (i) Mollusca | [14221-2017-02 | |
| | (b) Physalia (ii) Platyhelminthes | | |
| | (c) Pinctada (iii) Echinodermata | | |
| | (d) Planaria (iv) Coelenterata | | |
| | Select the correct option: | | |
| | (1) (a)-(iv), (b)-(i), (c)-(iii), d-(ii) (2) (a)-(iii), (b)-(iv), (c)-(i), d-(ii) | | |
| | (3) (a)-(i), (b)-(iii), (c)-(iv), d-(ii) (4) (a)-(iii), (b)-(iv), (c)-(ii), d-(i) | | |
| 22. | Which of the following animals are true coelomates with bilatera | | D100 4 |
| | (1) A divit Fabine de mass. (2) As als almaintes as (2) Platite almainte as | [NEET-2019 O | |
| 23. | (1) Adult Echinoderms (2) Aschelminthes (3) Platyhelminthes | | |
| 25. | Which of the following options does correctly represent the char phylum Annelida? | NEET-2020 C | |
| | (1) Triploblastic, unsegmented body and bilaterally symmetrical. | [11221 2020 0 | |
| | (2) Triploblastic, segmented body and bilaterally symmetrical. | | |
| | (3) Triploblastic, flattened body and acoelomate condition. | | |
| | (4) Diploblastic, mostly marine and radially symmetrical. | | |
| 24. | Match the following group of organisms with their respective dist | | |
| | and select the correct option: | NEET-2020 COVID |] |
| | | | |
| | Organisms Characteristics (a) Platyboliminthus (i) Cylindrical body with no segmentate | ion | |
| | (a) Platyhelminthes (i) Cylindrical body with no segmentat (b) Echinoderms (ii) Warm blooded animals with direct | | |
| | (c) Hemichordates (iii) Bilateral symmetry with incomplete | · · · · · · · · · · · · · · · · · · · | |
| | (d) Aves (iv) Radial symmetry with indirect deve | _ | |
| | (1) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii) (2) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i) | 7001110111 | |
| | (3) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii) (4) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv) | | |
| 25. | Match the following columns and select the correct option: | [NEET-2020 CO | VID] |
| | Column - I Column - II | _ | _ |
| | (a) Aptenodytes (i) Flying fox | | |
| | (b) Pteropus (ii) Angel fish | | |
| | (c) Pterophyllum (iii)Lamprey | | |
| | (d) Petromyzon (iv) Penguin | (-1) (**) | |
| | (1) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i) (2) (a)-(iii), (b)-(iv), (c)-(i), | (a)-(II) | |

| | (3) (a)- | -(i∨), (k | o)-(i), (| c)-(ii), | (d)-(i | ii) (| 4) (a) | -(ii), (| b)-(i), | (c)-(iv |), (d)-(i | iii) | | |
|-----|------------------------------------|---------------------------|-------------------------------|-----------------------------|----------------------------|--|----------------------|----------------|----------------------|-------------------------|-----------------------|-----------------|--------------------|------------|
| 26. | All vert | tebrat | es are | chord | ates | but all ch | ordat | es are | e not | verteb | | - | COVID | , |
| 27. | (2) Ver (3) All ((4) All (| ntral h chord chord | ollow r ates po ates po | nerve o ossess ossess | cord verte noto | vertebral remains the bral colur characterist colur characterist are | nroug mn. ough | hout out th | life in eir life | some | e choi chordd | rdates ates. | COVID | - |
| | a) In their I | | ordato | ı notod | chord | d extends | from | heac | l to ta | il and i | it is pre | sent th | nroughd | out |
| | b) In | Vertel | orata r | notoch | ord i | s present | durin | g the | embr | yonic p | oeriod | only | | |
| | c) Ce | entral i | nervou | ıs syste | m is | dorsal and | d holl | WC | | | | | | |
| | • | | a is div | | nto 3 | subphylo | : Her | micho | ordato | a, Tunic | cata ai | nd | | |
| | 1) (b) | and | (c) | | 2) (| d) and (c) | | 3) (c) | and | (a) | | 4) (a |) and (k | ɔ) |
| 28. | Matc | | followi mn – I | ng col | umn | s and sele | ct the | e corr | | ption ımn – I | ı | | [NEET- | ·2020] |
| | (a) (b) | Grec Adul | garious t with r | | ymm | ous pest netry and v | arva | | (i) (ii) | Aste Scor | rias | | | |
| | (c) (d) | Book | lungs minesc (b) | · | (d) | , | | (a) | (iii) (iv) (b) | Cter Locu (c) | noplan usta (d0 | a | | |
| | 1) 3) | (ii) (i∨) | (i) (i) | (iii) (ii) | (iv) (iii) | 4 | <u>?)</u> !) | (i) (iii) | (iii) (ii) | (ii) (i) | (i∨) (i∨) | | | |
| 29. | Colur a) 6-1 b) He c) Air | mn-I 15 paiı | rs of gil ercal c der | | Col i) Tr fin | s and sele umn-II ygon ii) Cycl iii) Cho Osteichthy | oston ndric | nes | | ption | | | [NEET- | ·2020] |
| 30. | - | | == | | d ac | oelomate | anin | nals a | ire ex | emplifi | ed by | | [NEET- | 2020] |
| 31. | | | a I with L | 2) Cto ist-II | enop | ohora | | 3) Plo | atyhel | minthe | es | 4) As | chelmir [NEET-2 | |
| | | , | List-I | | | | List-I | | | | | | | |
| | (a) | | 1etam | | | (i) | | elente | | | | | | |
| | (b) | C | Canal p | <u>olates</u> | | (ii) | Cte | noph | ora | | | | | |

| | ri21-1 | | FI91-II |
|-----|--------------|-------|--------------|
| (a) | Metamerism | (i) | Coelenterata |
| (b) | Canal plates | (ii) | Ctenophora |
| (c) | Comb plates | (iii) | Annelida |
| (d) | Cnidoblasta | (iv) | Porifera |
| | • | • | · |

Choose the correct answer from the options given below. (a) (b) (c)(d) 1) (iii) (iv)(i) (ii) 2) (iii) (i∨) (ii) (i) 31 (iv)(ii) (iii) (i) 4) (iv)(iii) (i) (ii) 32. Read the following statements [NEET-2021] a) Metagenesis is observed in Helminths b) Round worms have organ –system level of body organization c) Comb plates present in ctenophores help in digestion e) Water vascular system is characteristic of Echinoderms Choose the correct answer from the options given below 1) (a), (b) and (c) are correct 2) (a), (d) and (e) are correct 3) (b), (c) and (e) are correct 4) (c), (d) and (e) are correct 33. Which one of the following organisms bears hollow and pneumatic long bones? [NEET-2021] 1) Hemidactylus 2) Macropus 3) Ornithorhynchus 4) Neophron 34. Match the following: [NEET-2021] List - I List – II a) Physalia i) Pearl oyster ii) Portuguese Man of War b)Limulus c) Ancylostoma iii) Living fossil d) Pinctada iv) Hookworm Choose the correct answer from the options given below 1) a-iv, b-i, c-iii, d-ii 2) a-ii, b-iii, c-iv, d-i 3) a-i, b-iv, c-iii, d-ii 4) a-ii, b-iii, c-i, d-iv 35. Exoskeleton of arthropods in composed of: [NEET-2022] 1) Cutin 2) Cellulose 3) Chitin 4) Glucosamine In which of the following animals, digestive tract has additional chambers like crop 36. and gizzard? [NEET-2022] 1) Corvus, Columba, Chameleon 2) Bufo, Balaenoptera, Bangarus 3) Catla, Columba, Crocodilus 4) Pavo, Psittacula, Corvus Given below are two statements: One is labelled as Assertion (A) and the other is

37. labelled as Reason (R). [NEET-2022]

Assertion (A): All vertebrates are chordates but all chordates are not vertebrates.

Reason (R): Notochord is replaced by vertebral column in the adult vertebrates. In the light of the above statements, choose the most appropriate answer from the options given below:

- 1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- 2) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
- 3) (A) is correct but (R) is not correct
- 4) (A) is not correct but (R) is correct.

| Q. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ans. | Α | С | D | В | С | В | С | Α | С | D |
| Q. | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Ans. | Α | С | В | D | Α | D | Α | D | В | D |
| Q. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Ans. | D | В | С | Α | В | В | Α | D | В | Α |
| Q. | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Ans. | Α | С | С | В | Α | Α | С | В | С | Α |
| Q. | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| Ans. | D | В | С | Α | D | В | С | С | С | Α |
| Q. | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Ans. | В | Α | Α | С | С | Α | С | Α | В | D |
| Q. | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| Ans. | С | Α | D | Α | В | D | Α | Α | D | В |
| Q. | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| Ans. | С | В | С | D | Α | Α | В | Α | В | Α |
| Q. | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| Ans. | D | В | Α | Α | D | Α | D | С | С | D |
| Q. | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| Ans. | D | D | D | Α | В | С | D | В | С | В |
| Q. | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 |
| Ans. | D | В | Α | D | Α | В | С | Α | С | Α |
| Q. | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| Ans. | С | В | D | D | Α | С | В | Α | Α | С |
| Q. | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 |
| Ans. | В | Α | Α | Α | D | С | В | D | D | В |
| Q. | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| Ans. | Α | С | D | D | С | Α | D | D | D | D |
| Q. | 141 | 142 | 143 | 144 | 145 | 146 | | | | |
| Ans. | D | D | В | Α | С | D | | | | |

NEET PREVIOUS YEARS QUESTIONS-ANSWERS

| 1 (a) | 2 (b) | 3 (d) | 4 (b) | 5 (b) | 6 (b) | 7 (c) | 8 (a) | 9 (c) | 10 (b) |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 11 (a) | 12 (a) | 13 (a) | 14 (c) | 15 (b) | 16 (d) | 17 (b) | 18 (b) | 19 (b) | 20 (2) |
| 21 (2) | 22 (4) | 23 (2) | 24 (1) | 25 (3) | 26 (1) | 27 (1) | 28 (3) | 29 (2) | 30 (3) |
| 31 (2) | 32 (3) | 33 (4) | 34 (2) | 35 (3) | 36 (4) | 37 (1) | | | |

NEET PREVIOUS YEARS QUESTIONS-EXPLANATIONS

- 1. (a) Metamorphosis refers to transformation of larva into adult. Animal that perform metamorphosis are said to have indirect development. Metamorphosis in insects includes the transformation of a maggot into an adult fly and a caterpillar into a butterfly and, in amphibians, the changing of a tadpole into a frog. In earthworm development is direct which means no larval stage are there and hence no metamorphosis.
- 2. (b) The two extremes in the animal kingdom are endothermic homeotherms and ectothermic poikilotherms. Most mammals, including humans, as well as most birds are endothermic homeotherms, while most fish, invertebrates, reptiles, and amphibians are ectothermic poikilotherms. Chelone (Turtle) belongs to class reptilia which is poikilotherm or cold blooded.
- **3. (d)** The digestive tract of aves has additional chambers in their digestive system as crop and gizzard. Crop is

- concerned with storage of food grains, whereas gizzard is a masticatory organ in birds used to crush food grain.
- **4. (b)** In poriferans (sponges) choanocytes (collar cells) form lining of spongocoel. Flagella present in collar cells provide circulation to water in water canal system.
- **5. (b)** Pharyngeal gill slits are present in hemichordates and in chordates. Notochord is present in chordates only. Ventral tubular nerve cord is present in non-chordates.
- **6. (b)** Sharks and Trygon (sting ray) are the members of cartilaginous fish while whale, dolphin and seals are aquatic mammal.
- 7. (c) All arthropods possess a stiff exoskeleton (external skeleton) composed primarily of chitin. Arthropod bodies are divided into segments. Parapodia are paired, lateral appendages extending from the body segments. Arthropod appendages may be either biramous (branched) or uniramous (unbranched). They do not possess jointed appendages.
- **8. (a)** Chondrichthyes always have cartilaginous endoskeleton. Most mammals are viviparous, giving
 - birth to young ones. However, the five species of monotreme, the Platypus and the Echidna, lay eggs.
 - Chordates have jawless animals (agnatha) as well. Most reptiles have 3 chambered heart. Crocodilians
 - have 4 chambered hearts. Turtles have 3 chambered heart but with an incomplete wall in the single ventricle, so their hearts are functionally 4 chambered.
- **9. (c)** Viviparity is not shared by birds and mammals. Viviparity is a process of giving birth to young that develop within the mother's body rather than hatching from eggs. All mammals except the monotremes are viviparous.
- 10. (b) The exoskeleton of insects consists of chitinous cuticle. It gets hardened due to the deposition of calcium. It prevents dessication and gives protection.
- 11. (a) Metagenesis is defined as alternation of generation found in phylum cnidaria (eg. Obelia). In this phenomenon one generation of an organism reproduces asexually, followed by a sexually reproducing generation.
- 12. (a)
- **13. (a)** (i) Aves possess dry skin, without glands except oil gland near the base of tail. (ii) Pinnae are not found in aquatic animals and egg laying mammals. (iii) In cyclostomes, unpaired appendages (joints) are found.
- **14. (c)** Petromyzon marinus, commonly known as sea lamprey lays eggs in fresh water and its larvae, after metamorphosis, return to the ocean (saline water).
- 15. (b) Platypus is an oviparous (egg laying animal). It belongs to the class-mammalia.
- **16. (d)** Members of ctenophora, cephalochordata and echinodermata are exclusively marine.
- 17. (b) Gorgonia (sea-fan) is an animal. All animals lack cell wall.
- **18. (b)** Planaria is a flatworm which possesses a high capacity of regeneration.
- **19. (b)** Torpedo is a sluggish fish. It is carnivorous. The preyis killed due to electric shock. The shock can also be harmful for human beings.
- 27. In vertebrata, notochord is present during embryonic period only as it is replaced by vertebral column. In chordates, central nervous system is dorsal and hollow.
- 28. Locusta is a gregareous pest.
 In Echinoderms, adults are radially symmetrical but larvae are bilaterally symmetrical.

Scorpions respire through book lungs.

Bioluminescence is well marked in ctenophores.

29. Cyclostomes shows 6-15 pairs of gill slits for respiration

Air bladder is present in class Osteichthyes

Trygon, a cartilaginous fish, possesses poison sting

Heterocercal caudal fin is present in class Chondrichthyes

- 30. Platyhelminthes are bilaterally symmetrical and acoelomate animals with organ level of organisation.
- 31. Matchings:

| | List-I | List-II | |
|-----|-------------|---------|------------|
| (a) | Metamerism | (i) | Annelida |
| (b) | Canal | (ii) | Porifera |
| | System | | |
| (c) | Comb plates | (iii) | Ctenophora |
| (d) | Cnidoblasta | (iv) | Cnidaria |

- 32. 1. Echinoderms are triploblastic and coelomate animals.
 - 2. Round worms have organ system level of body organisation
 - 3. Water vascular system is characteristic of echinoderms
- 33. Hemidactylus wall lizard reptile

Macropus - Mammal

Ornithorhynchus - Mammal (Oviparous)

Neophron - Bird - Pneumatic bones

34. Physalia - Portuguese Man of War

Limulus - Living fossil

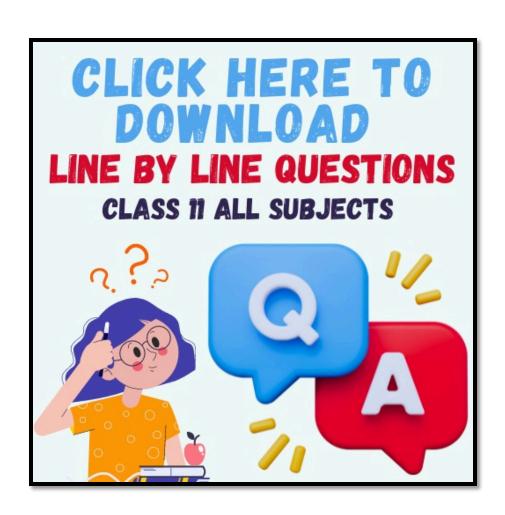
Ancylostoma - Hookworm

Pinctada - Pearl oyster

35 Exoskeleton of arthropods is composed of CHITIN

NCERT- XI Page No - 149

- 36 Pavo, Psittacula, Corvus are birds having additional chambers like crop & gizzard
- **37** Reason explains Assertion





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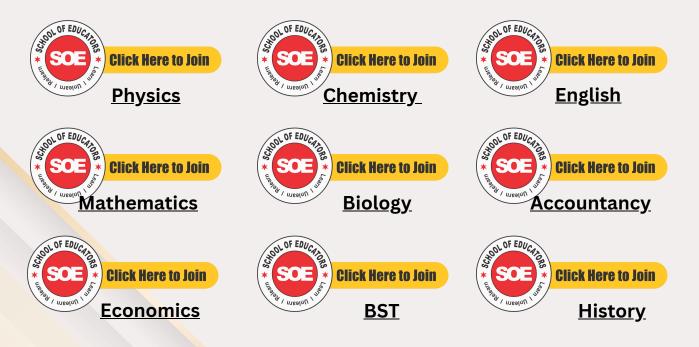
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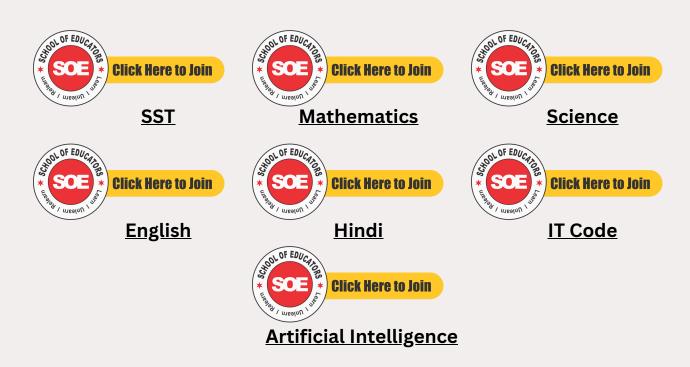
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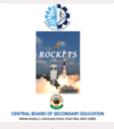
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<u>Embroidery</u>



<u>Embroidery</u>



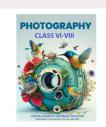
Rockets



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<u>Application of</u> <u>Satellites</u>



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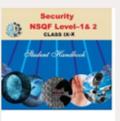
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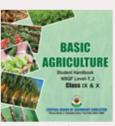
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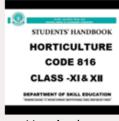


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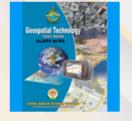
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Horticulture



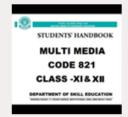
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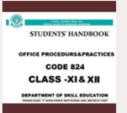
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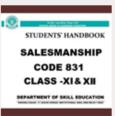
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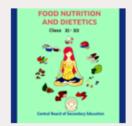
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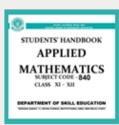
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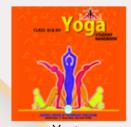
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